

**REMARKS**

Claims 1, 2, 4 through 8, 10 through 14, 16 through 20, and 22 through 24 are currently pending in the application.

This amendment is in response to the Office Action of June 23, 2008.

**35 U.S.C. § 112 Claim Rejections**

Claims 1, 2, 4 through 8, 10 through 14, 16 through 20, and 22 through 24 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicants respectfully traverse this rejection, as hereinafter set forth.

Applicants assert that claims 1, 2, 4 through 8, 10 through 14, 16 through 20, and 22 through 24 include the subject matter of paragraph numbered [0054] of the specification to support the claim language under 35 U.S.C. § 112, first paragraph, specifically claim the passivation layer 40 including silicon dioxide and silicon nitride, the exact language from paragraph numbered [0054]. Therefore, claims 1, 2, 4 through 8, 10 through 14, 16 through 20, and 22 through 24 comply with the provisions of 35 U.S.C. § 112.

Claims 1, 2, 4 through 8, 10 through 14, 16 through 20, and 22 through 24 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Applicants assert that claims 1, 2, 4 through 8, 10 through 14, 16 through 20, and 22 through 24 particularly point out and distinctly claim the subject matter of the invention to comply with the provisions of 35 U.S.C. § 112. Therefore, presently amended claims 1, 2, 4 through 8, 10 through 14, 16 through 20, and 22 through 24 are allowable under the provisions of 35 U.S.C. § 112.

### 35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on Ginn et al. (U.S. Patent 5,827,771) in view of Ishikawa (U.S. Patent Publication No. 2002/0064930)

Claims 1, 7, 13 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ginn et al. (U.S. Patent 5,827,771) in view of Ishikawa (U.S. Patent Publication No. 2002/0064930). Applicants respectfully traverse this rejection, as hereinafter set forth.

Applicants assert that to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the cited prior art reference must teach or suggest all of the claim limitations. Furthermore, the suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants' disclosure.

To establish a *prima facie* case of obviousness the prior art reference (or references when combined) **must teach or suggest all the claim limitations**. *In re Royka*, 490 F.2d 981, 985 (CCPA 1974); *see also* MPEP § 2143.03. Additionally, the Examiner must determine whether there is "an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740-1741, 167 L.Ed.2d 705, 75 USLW 4289, 82 U.S.P.Q.2d 1385 (2007). Further, rejections on obviousness grounds "cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *Id* at 1741, quoting *In re Kahn*, 441, F.3d 977, 988 (Fed. Cir. 2006). Finally, to establish a *prima facie* case of obviousness there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). Furthermore, the reason that would have prompted the combination and the reasonable expectation of success must be found in the prior art, common knowledge, or the nature of the problem itself, and not based on the Applicant's disclosure. *DyStar Textilfarben GmbH & Co. Deutschland KG v. C. H. Patrick Co.*, 464 F.3d 1356, 1367

(Fed. Cir. 2006); MPEP § 2144. Underlying the obvious determination is the fact that statutorily prohibited hindsight cannot be used. *KSR*, 127 S.Ct. at 1742; *DyStar*, 464 F.3d at 1367.

After carefully considering the cited prior art, the rejections, and the Examiner's comments, Applicants have amended the claimed invention to clearly distinguish over the cited prior art.

Turning to the cited prior art, the Ginn et al. reference teaches or suggests a chip 10 having a layer 14 of circuitry disposed on a surface 12 and a layer 18 applied to the backside of the chip 10 of sputtered  $\text{Si}_3\text{N}_4$ .

The Ishikawa reference teaches or suggests a passivation layer 3 on a chip 1.

Applicants assert that the presently claimed inventions of presently amended independent claims 1, 7, 13, and 19 are not obvious based upon the Ginn et al. reference in view of the Ishikawa reference under 35 U.S.C. § 103 because the cited prior art does not teach or suggest all the claim limitations of the claimed inventions. Applicant asserts that the Ginn et al. reference in view of the Ishikawa reference does not teach or suggest the claim limitations of presently amended independent claims 1, 7, 13, and 19 calling for “a passivation layer covering a portion of the integrated circuit causing a stress on at least a portion of the semiconductor substrate, the passivation layer including silicon dioxide and silicon nitride” and “a stress-balancing layer covering at least a portion of the back side substantially balancing the stress caused by the passivation layer covering a portion of the integrated circuit, the stress-balancing layer comprising at least one of a metal, a metal alloy, a metallorganic material, a photoresist material, a multilayer material remaining as a multilayer material having independent layers for balancing stresses in more than one direction when balancing the tensile stresses and compressive stresses of the semiconductor substrate in a plurality of directions, a multilayer tape material remaining as a multilayer tape material having independent layers for balancing stresses omnidirectionally, an adhesive material having reinforcement materials therein, and a temporary adhesive material having reinforcing materials therein”. Applicants assert that the Ginn et al. reference in view of the Ishikawa reference does not teach or suggest the claim limitations of presently amended independent claims 1, 7, 13, and 19 whatsoever. Therefore, presently

amended independent claims 1, 7, 13, and 19 are allowable as well as the dependent claims therefrom.

Obviousness Rejection Based on Ginn et al. (U.S. Patent 5,827,771) in view of Ishikawa (U.S. Patent Publication No. 2002/0064930) and further in view of Sakaki et al. (U.S. Patent Publication No. 2003/0017652)

Claims 5, 6, 11, 17, 23 and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ginn et al. (U.S. Patent 5,827,771) in view of Ishikawa (U.S. Patent Publication No. 2002/0064930) as applied to claims 1, 7, 13 and 19 above, and further in view of Sakaki et al. (U.S. Patent Publication No. 2003/0017652). Applicants respectfully traverse this rejection, as hereinafter set forth.

Applicants assert that claims 5, 6, 11, 17, 23, and 24 are allowable as they depend from allowable presently amended independent claims 1, 7, 13, and 19.

Obviousness Rejection Based on Hsiao (U.S. Patent 6,277,725) in view of Sakaki et al. (U.S. Patent Publication No. 2003/0017652)

Claims 1, 2, 7, 8, 10, 13, 14, 16, 19, 20 and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsiao (U.S. Patent 6,277,725) in view of Sakaki et al. (U.S. Patent Publication No. 2003/0017652). Applicants respectfully traverse this rejection, as hereinafter set forth.

Applicants assert that to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the cited prior art reference must teach or suggest all of the claim limitations. Furthermore, the suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants' disclosure.

To establish a *prima facie* case of obviousness the prior art reference (or references when combined) **must teach or suggest all the claim limitations**. *In re Royka*, 490 F.2d 981, 985 (CCPA 1974); *see also* MPEP § 2143.03. Additionally, the Examiner must determine whether there is “an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740-1741, 167 L.Ed.2d 705, 75 USLW 4289, 82 U.S.P.Q.2d 1385 (2007). Further, rejections on obviousness grounds “cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id* at 1741, quoting *In re Kahn*, 441, F.3d 977, 988 (Fed. Cir. 2006). Finally, to establish a *prima facie* case of obviousness there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). Furthermore, the reason that would have prompted the combination and the reasonable expectation of success must be found in the prior art, common knowledge, or the nature of the problem itself, and not based on the Applicant’s disclosure. *DyStar Textilfarben GmbH & Co. Deutschland KG v. C. H. Patrick Co.*, 464 F.3d 1356, 1367 (Fed. Cir. 2006); MPEP § 2144. Underlying the obvious determination is the fact that statutorily prohibited hindsight cannot be used. *KSR*, 127 S.Ct. at 1742; *DyStar*, 464 F.3d at 1367.

After carefully considering the cited prior art, the rejections, and the Examiner’s comments, Applicants have amended the claimed invention to clearly distinguish over the cited prior art.

Turning to the cited prior art, the Hsiao reference teaches or suggests a semiconductor substrate having an integrated circuit, and a passivation layer.

The Sakai et al. reference describes a semiconductor chip 1 having a resin 7 on the surface thereof and having a resin film bonded to a back surface 1Y of the chip 1 wherein the resin film is a thermosetting resin of the epoxy group.

Applicants assert that the presently claimed inventions of presently amended independent claims 1, 7, 13, and 19 are not obvious based upon the Hsiao reference in view of the Sakai et al. reference under 35 U.S.C. § 103 because the cited prior art does not teach or suggest all the claim limitations of the claimed inventions. Applicant asserts that the Hsiao reference in view of the Sakai et al. reference does not teach or suggest the claim limitations of presently amended

independent claims 1, 7, 13, and 19 calling for “a passivation layer covering a portion of the integrated circuit causing a stress on at least a portion of the semiconductor substrate, the passivation layer including silicon dioxide and silicon nitride” and “a stress-balancing layer covering at least a portion of the back side substantially balancing the stress caused by the passivation layer covering a portion of the integrated circuit, the stress-balancing layer comprising at least one of a metal, a metal alloy, a metallorganic material, a photoresist material, a multilayer material remaining as a multilayer material having independent layers for balancing stresses in more than one direction when balancing the tensile stresses and compressive stresses of the semiconductor substrate in a plurality of directions, a multilayer tape material remaining as a multilayer tape material having independent layers for balancing stresses omnidirectionally, an adhesive material having reinforcement materials therein, and a temporary adhesive material having reinforcing materials therein”. Applicants assert that the Hsiao reference in view of the Sakai et al. reference does not teach or suggest the claim limitations of presently amended independent claims 1, 7, 13, and 19 whatsoever. Further, Applicants assert that any modification of the Hsiao reference in view of the Sakai et al. reference is a hindsight reconstruction of the claimed inventions based solely upon Applicants’ disclosure which is not permitted under the KSR decision. (Underlying the obvious determination is the fact that statutorily prohibited hindsight cannot be used. *KSR*, 127 S.Ct. at 1742.) Therefore, presently amended independent claims 1, 7, 13, and 19 are allowable as well as the dependent claims therefrom.

Obviousness Rejection Based on Hsiao (U.S. Patent 6,277,725) in view of Ouellet et al. (U.S. Patent Publication No. 2002/0064359)

Claims 1, 2, 7, 8, 10, 13, 14, 16, 19, 20 and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsiao (U.S. Patent 6,277,725) in view of Ouellet et al. (U.S. Patent Publication No. 2002/0064359). Applicants respectfully traverse this rejection, as hereinafter set forth.

Applicants assert that to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 three basic criteria must be met. First, there must be some suggestion or motivation, either

in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the cited prior art reference must teach or suggest all of the claim limitations. Furthermore, the suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants' disclosure.

To establish a *prima facie* case of obviousness the prior art reference (or references when combined) **must teach or suggest all the claim limitations**. *In re Royka*, 490 F.2d 981, 985 (CCPA 1974); *see also* MPEP § 2143.03. Additionally, the Examiner must determine whether there is "an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740-1741, 167 L.Ed.2d 705, 75 USLW 4289, 82 U.S.P.Q.2d 1385 (2007). Further, rejections on obviousness grounds "cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *Id* at 1741, quoting *In re Kahn*, 441, F.3d 977, 988 (Fed. Cir. 2006). Finally, to establish a *prima facie* case of obviousness there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). Furthermore, the reason that would have prompted the combination and the reasonable expectation of success must be found in the prior art, common knowledge, or the nature of the problem itself, and not based on the Applicant's disclosure. *DyStar Textilfarben GmbH & Co. Deutschland KG v. C. H. Patrick Co.*, 464 F.3d 1356, 1367 (Fed. Cir. 2006); MPEP § 2144. Underlying the obvious determination is the fact that statutorily prohibited hindsight cannot be used. *KSR*, 127 S.Ct. at 1742; *DyStar*, 464 F.3d at 1367.

After carefully considering the cited prior art, the rejections, and the Examiner's comments, Applicants have amended the claimed invention to clearly distinguish over the cited prior art.

Turning to the cited prior art, the Hsiao reference teaches or suggests a semiconductor substrate having an integrated circuit, and a passivation layer.

The Outellet et al. reference teaches or suggests a wafer having a PECVD silica film 3 on the backside thereof.

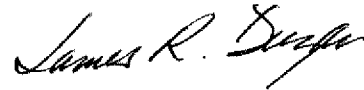
Applicants assert that the presently claimed inventions of presently amended independent claims 1, 7, 13, and 19 are not obvious based upon the Hsiao reference in view of the Sakai et al. reference under 35 U.S.C. § 103 because the cited prior art does not teach or suggest all the claim limitations of the claimed inventions. Applicant asserts that the Hsiao reference in view of the Outellet et al. reference does not teach or suggest the claim limitations of presently amended independent claims 1, 7, 13, and 19 calling for “a passivation layer covering a portion of the integrated circuit causing a stress on at least a portion of the semiconductor substrate, the passivation layer including silicon dioxide and silicon nitride” and “a stress-balancing layer covering at least a portion of the back side substantially balancing the stress caused by the passivation layer covering a portion of the integrated circuit, the stress-balancing layer comprising at least one of a metal, a metal alloy, a metallorganic material, a photoresist material, a multilayer material remaining as a multilayer material having independent layers for balancing stresses in more than one direction when balancing the tensile stresses and compressive stresses of the semiconductor substrate in a plurality of directions, a multilayer tape material remaining as a multilayer tape material having independent layers for balancing stresses omnidirectionally, an adhesive material having reinforcement materials therein, and a temporary adhesive material having reinforcing materials therein”. Applicants assert that the Hsiao reference in view of the Outellet et al. reference does not teach or suggest the claim limitations of presently amended independent claims 1, 7, 13, and 19 whatsoever. Further, Applicants assert that any modification of the Hsiao reference in view of the Outellet et al. reference is a hindsight reconstruction of the claimed inventions based solely upon Applicants’ disclosure which is not permitted under the KSR decision. (Underlying the obvious determination is the fact that statutorily prohibited hindsight cannot be used. *KSR*, 127 S.Ct. at 1742.) Therefore, presently amended independent claims 1, 7, 13, and 19 are allowable as well as the dependent claims therefrom.



Applicants submit that claims 1, 2, 4 through 8, 10 through 14, 16 through 20, and 22 through 24 are clearly allowable over the cited prior art.

Applicants request the allowance of claims 1, 2, 4 through 8, 10 through 14, 16 through 20, and 22 through 24 and the case passed for issue.

Respectfully submitted,



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